CLAIMS

1. A diversity radio antenna, comprising a ground substrate (1), first and second elongated antenna elements (2,3), each extending between respective first (5,6) and second opposing ends (7,8) in a plane parallel to and spaced from said ground substrate, and an excitation electrode (4) interposed between said respective first ends, **characterised in** that ground connector switch means (9,10) are devised to selectively connect and disconnect said ground substrate to said antenna elements, for controlling radiation beam pattern and polarisation diversity of the antenna.

2. The diversity radio antenna as recited in claim 1, **characterised in** that said ground connector switch means are devised to selectively connect and disconnect said respective second ends of the antenna elements to ground.

3. The diversity radio antenna as recited in claim 1, **characterised in** that said antenna elements extend substantially perpendicular to each other in said plane.

4. The diversity radio antenna as recited in claim 1, **characterised in** that said ground connector switch means comprises a MEMS switch.

5. The diversity radio antenna as recited in claim 1, **characterised in** that said excitation electrode is capacitively coupled to said respective first ends of said antenna elements.

6. The diversity radio antenna as recited in claim 1, **characterised in** that said ground connector switch means are devised to connect said first and second antenna elements to ground, for adapting the antenna to a circularly-polarised radio wave.

7. The diversity radio antenna as recited in claim 1, **characterised in** that said ground connector switch means are devised to connect one of said first and second antenna elements to ground, and disconnect the other of said first and second

antenna elements from ground, for adapting the antenna to a linearly-polarised radio wave.

8. The diversity radio antenna as recited in claim 1, **characterised in** that said ground connector switch means are devised to selectively connect said first and second antenna elements to ground for adapting the antenna to a circularly-polarised radio wave, or disconnect one of said first and second antenna elements from ground for adapting the antenna to a linearly-polarised radio wave.

9. The diversity radio antenna as recited in claim 1, **characterised in** that said ground connector switch means are devised to selectively connect said ground substrate to said antenna elements over a predetermined impedance.

10. The diversity radio antenna as recited in claim 1, **characterised in** that said ground connector switch means are devised to selectively connect said ground substrate to said antenna elements over a predetermined inductive impedance.

11. The diversity radio antenna as recited in claim 1, **characterised in** that each of said first and second antenna elements have an electrical length of one quarter of a predetermined radio frequency wavelength.

12. The diversity radio antenna as recited in claim 1, **characterised in** that a dielectric member is interposed between said plane and said ground substrate.

13. The diversity radio antenna as recited in claim 12, **characterised in** that said dielectric member is made of a ceramic material.

14. The diversity radio antenna as recited in claim 12, **characterised in** that said antenna elements and said excitation electrode are provided on a first surface of the dielectric member, whereas said ground substrate is formed adjacent to a second

surface of said dielectric member, opposite and parallel to said first surface.

15. The diversity radio antenna as recited in claim 14, **characterised in** that said antenna elements and said excitation electrode are formed by a coat of an electrically conductive material provided on said first surface, whereas a first and a second spacing between said excitation electrode and said first and second antenna element, respectively, are formed by etching of said coat.

16. The diversity radio antenna as recited in claim 14, **characterised in** that a radio frequency feed conductor extends from said excitation electrode along a side surface of said dielectric member, to a feed pad at said second surface.

17. The diversity radio antenna as recited in claim 1, **characterised in** that said ground substrate is formed as a material layer in a printed circuit board.

18. A radio communication terminal (30), **characterised by** comprising a diversity radio antenna according to any of the previous claims.